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TITLE: (b) Rhenium oxidation with air oxygen in the hydrometallurgical proces-
sing of copper concentrates

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TEXT:　　　To reveal rhenium concentration in products of copper and molybdenum
ore processing, and to develop a technique of rhenium extraction, it is important
to know its behavior in various concentration and metallurgical processes. The
determination of the effect of pulp bubbling with air makes it possible to obtain
information on the behavior of rhenium in flotation and hydrometallurgical proces-
sing of the concentrates. For this purpose the authors conducted a series of ex-
periments on leaching-out copper sulfide concentrates without and with air-bubb-
ling of the concentrate. The experimental conditions were a) the BIMK method:
solid:liquid = 1:3; the composition of the solution: 10 g/1 soda, 17 g/1 cal-
cium oxide; duration of mechanical stirring: 5 hours; temperature ~95°C; and

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b) the IM10 method, proposed by the authors: solid:liquid = 1:5; soda solution
30 g/1; mechanical stirring for 5 hours, at ~95°C. Aged dry, fresh dry and
fresh wet concentrate samples were used. It was found that sample no. 1 was not
affected by air bubbling. It is extracted by the IM10 method about 25% more than
by the BOMK method. The effect of air oxygen is high for samples no. 2, dried
at 80 - 100 C: Re extraction increases by 40% (BOMK) and by 19% (IM10). The
effect on Re-oxidation decreases to 18% (BOMK) and to 3% (IM10) when sample no. 3
is treated by air bubbling. The experiments show that in all cases the IM10 meth-
od yields optimum results. Preliminarily dried concentrates should be lixiviated.
During lixiviation the pulp should be subjected to intensive air bubbling, in
particular when processing dried concentrate. There is 1 table.

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